

Patent Claims

1. A process for the fabrication of isolation structures with the following process steps
 - provision of a semiconductor substrate (11),
 - forming of at least two trenches (12) spaced from each other in the semiconductor substrate (11) with at least one rib (13) positioned between the trenches (12),
 - conversion of the substrate material in the area of the trenches (12) into an electrically insulating material (14) up to the complete conversion of the rib or the ribs (13) arranged between them,
 - forming of a functional structure (15) within the substrate material which is mechanically connected with the substrate exclusively by means of the converted substrate material which is formed at the trenches.
2. A process according to patent claim 1 characterised in that silicon is used as semiconductor substrate.
3. A process according to patent claim 2 characterised in that the substrate material is converted by means of thermal oxidation.
4. A process according to any one of patent claims 1 to 3 characterised in that a continuous insulating oxide structure (14) over longer distances is created by means of a continuous arrangement of trenches (12) and ribs (13) between them.
5. Process according to any one of patent claims 1 to 4 characterised in that with greater widths of the ribs (13) the process step of conversion is a multi-step process.
6. Process according to patent claim 5 characterised in that after a first process step of the conversion the so created converted material is removed and thereafter the remaining material is converted in a second process step of the conversion.